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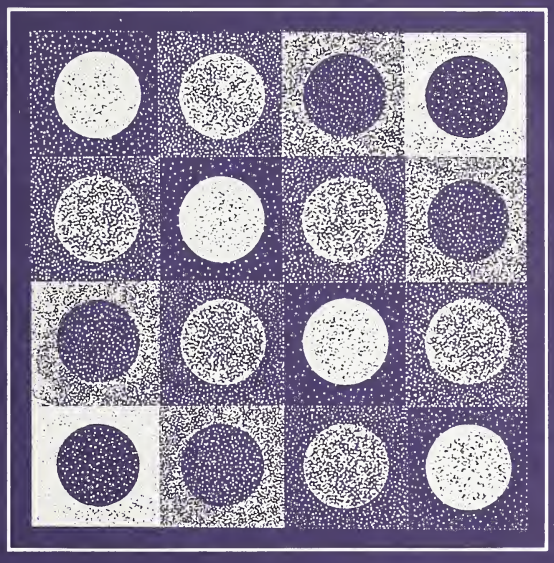

MATHEMATICS DATA BOOKLET

(Revised)

Alberta
EDUCATION

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1986

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MATHEMATICS 30
FORMULA SHEET

I. Trigonometry

1. $\cos^2 A + \sin^2 A = 1$
2. $1 + \tan^2 A = \sec^2 A$
3. $1 + \cot^2 A = \csc^2 A$
4. $\sin(A + B) = \sin A \cos B + \cos A \sin B$
5. $\sin(A - B) = \sin A \cos B - \cos A \sin B$
6. $\cos(A + B) = \cos A \cos B - \sin A \sin B$
7. $\cos(A - B) = \cos A \cos B + \sin A \sin B$
8. $\dfrac{a}{\sin A} = \dfrac{b}{\sin B} = \dfrac{c}{\sin C}$
9. $a^2 = b^2 + c^2 - 2bc \cos A$

II. Quadratic Relations

1. $(x - h)^2 + (y - k)^2 = r^2$
2. $x^2 + y^2 + Dx + Ey + F = 0$
3. $x^2 = 4py$ *or* $y^2 = 4px$
4. $(y - k)^2 = 4p(x - h)$ *or* $(x - h)^2 = 4p(y - k)$
5. $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1, \quad a^2 = b^2 + c^2$ *or* $\dfrac{y^2}{a^2} + \dfrac{x^2}{b^2} = 1, \quad a^2 = b^2 + c^2$
6. $\dfrac{x^2}{a^2} - \dfrac{y^2}{b^2} = 1, \quad c^2 = a^2 + b^2$ *or* $\dfrac{y^2}{a^2} - \dfrac{x^2}{b^2} = 1, \quad c^2 = a^2 + b^2$
7. $y = \pm \dfrac{b}{a} x$ *or* $y = \pm \dfrac{a}{b} x$

III. Sequences and Series

1. $t_n = a + (n - 1)d$

2. $S_n = \frac{n(a + t_n)}{2} = \frac{n[2a + (n - 1)d]}{2}$

3. $t_n = ar^{n-1}$

4. $S_n = \frac{a(r^n - 1)}{r - 1} = \frac{a(1 - r^n)}{1 - r}$

5. $S = \frac{a}{1 - r}, \quad -1 < r < 1$

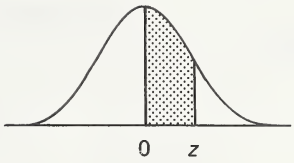
6. $A = P(1 + i)^n$

IV. Presentation of Data and Descriptive Statistics

1. $\mu = \frac{x_1 + x_2 + \ldots + x_n}{n}$

2. $\sigma = \sqrt{\frac{(x_1 - \mu)^2 + \ldots + (x_n - \mu)^2}{n}}$

3. $z = \frac{x - \mu}{\sigma}$



AREAS UNDER THE STANDARD NORMAL CURVE

z	0	1	2	3	4	5	6	7	8	9
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0754
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2258	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2518	0.2549
0.7	0.2580	0.2612	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2996	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4988	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

TRIGONOMETRIC RATIOS: SIX FUNCTIONS

DEGREES	SIN	COS	TAN	CSC	SEC	COT
0	0.0000	1.0000	0.0000	undefined	1.0000	undefined
1	0.0175	0.9998	0.0175	57.2990	1.0002	57.2900
2	0.0349	0.9994	0.0349	28.6540	1.0006	28.6363
3	0.0523	0.9986	0.0524	19.1070	1.0014	19.0811
4	0.0698	0.9976	0.0699	14.3360	1.0024	14.3007
5	0.0872	0.9962	0.0875	11.4740	1.0038	11.4301
6	0.1045	0.9945	0.1051	9.5668	1.0055	9.5144
7	0.1219	0.9925	0.1228	8.2055	1.0075	8.1443
8	0.1392	0.9903	0.1405	7.1853	1.0098	7.1154
9	0.1564	0.9877	0.1584	6.3925	1.0125	6.3138
10	0.1736	0.9848	0.1763	5.7588	1.0154	5.6713
11	0.1908	0.9816	0.1944	5.2408	1.0187	5.1446
12	0.2079	0.9781	0.2126	4.8097	1.0223	4.7046
13	0.2250	0.9744	0.2309	4.4454	1.0263	4.3315
14	0.2419	0.9703	0.2493	4.1336	1.0306	4.0108
15	0.2588	0.9659	0.2679	3.8637	1.0353	3.7321
16	0.2756	0.9613	0.2867	3.6280	1.0403	3.4874
17	0.2924	0.9563	0.3057	3.4203	1.0457	3.2709
18	0.3090	0.9511	0.3249	3.2361	1.0515	3.0777
19	0.3256	0.9455	0.3443	3.0716	1.0576	2.9042
20	0.3420	0.9397	0.3640	2.9238	1.0642	2.7475
21	0.3584	0.9336	0.3839	2.7904	1.0711	2.6051
22	0.3746	0.9272	0.4040	2.6695	1.0785	2.4751
23	0.3907	0.9205	0.4245	2.5593	1.0864	2.3559
24	0.4067	0.9135	0.4452	2.4586	1.0946	2.2460
25	0.4226	0.9063	0.4663	2.3662	1.1034	2.1445
26	0.4384	0.8988	0.4877	2.2812	1.1126	2.0503
27	0.4540	0.8910	0.5095	2.2027	1.1223	1.9626
28	0.4695	0.8829	0.5317	2.1301	1.1326	1.8807
29	0.4848	0.8746	0.5543	2.0627	1.1434	1.8040
30	0.5000	0.8660	0.5774	2.0000	1.1547	1.7321
31	0.5150	0.8572	0.6009	1.9416	1.1666	1.6643
32	0.5299	0.8480	0.6249	1.8871	1.1792	1.6003
33	0.5446	0.8387	0.6494	1.8361	1.1924	1.5399
34	0.5592	0.8290	0.6745	1.7883	1.2062	1.4826
35	0.5736	0.8192	0.7002	1.7435	1.2208	1.4281
36	0.5878	0.8090	0.7265	1.7013	1.2361	1.3764
37	0.6018	0.7986	0.7536	1.6616	1.2521	1.3270
38	0.6157	0.7880	0.7813	1.6243	1.2690	1.2799
39	0.6293	0.7771	0.8098	1.5890	1.2868	1.2349
40	0.6428	0.7660	0.8391	1.5557	1.3054	1.1918
41	0.6561	0.7547	0.8693	1.5243	1.3250	1.1504
42	0.6691	0.7431	0.9004	1.4945	1.3456	1.1106
43	0.6820	0.7314	0.9325	1.4663	1.3673	1.0724
44	0.6947	0.7193	0.9657	1.4396	1.3902	1.0355

TRIGONOMETRIC RATIOS: SIX FUNCTIONS

DEGREES	SIN	COS	TAN	CSC	SEC	COT
45	0.7071	0.7071	1.0000	1.4142	1.4142	1.0000
46	0.7193	0.6947	1.0355	1.3902	1.4396	0.9657
47	0.7314	0.6820	1.0724	1.3673	1.4663	0.9325
48	0.7431	0.6691	1.1106	1.3456	1.4945	0.9004
49	0.7547	0.6561	1.1504	1.3250	1.5243	0.8693
50	0.7660	0.6428	1.1918	1.3054	1.5557	0.8391
51	0.7771	0.6293	1.2349	1.2868	1.5890	0.8098
52	0.7880	0.6157	1.2799	1.2690	1.6243	0.7813
53	0.7986	0.6018	1.3270	1.2521	1.6616	0.7536
54	0.8090	0.5878	1.3764	1.2361	1.7013	0.7265
55	0.8192	0.5736	1.4281	1.2208	1.7435	0.7002
56	0.8290	0.5592	1.4826	1.2062	1.7883	0.6745
57	0.8387	0.5446	1.5399	1.1924	1.8361	0.6494
58	0.8480	0.5299	1.6003	1.1792	1.8871	0.6249
59	0.8572	0.5150	1.6643	1.1666	1.9416	0.6009
60	0.8660	0.5000	1.7321	1.1547	2.0000	0.5774
61	0.8746	0.4848	1.8040	1.1434	2.0627	0.5543
62	0.8829	0.4695	1.8807	1.1326	2.1301	0.5317
63	0.8910	0.4540	1.9626	1.1223	2.2027	0.5095
64	0.8988	0.4384	2.0503	1.1126	2.2812	0.4877
65	0.9063	0.4226	2.1445	1.1034	2.3662	0.4663
66	0.9135	0.4067	2.2460	1.0946	2.4586	0.4452
67	0.9205	0.3907	2.3559	1.0864	2.5593	0.4245
68	0.9272	0.3746	2.4751	1.0785	2.6695	0.4040
69	0.9336	0.3584	2.6051	1.0712	2.7904	0.3839
70	0.9397	0.3420	2.7475	1.0642	2.9238	0.3640
71	0.9455	0.3256	2.9042	1.0576	3.0716	0.3443
72	0.9511	0.3090	3.0777	1.0515	3.2361	0.3249
73	0.9563	0.2924	3.2709	1.0457	3.4203	0.3057
74	0.9613	0.2756	3.4874	1.0403	3.6280	0.2867
75	0.9659	0.2588	3.7321	1.0353	3.8637	0.2679
76	0.9703	0.2419	4.0108	1.0306	4.1336	0.2493
77	0.9744	0.2250	4.3315	1.0263	4.4454	0.2309
78	0.9781	0.2079	4.7046	1.0223	4.8097	0.2126
79	0.9816	0.1908	5.1446	1.0187	5.2408	0.1944
80	0.9848	0.1736	5.6713	1.0154	5.7588	0.1763
81	0.9877	0.1564	6.3138	1.0125	6.3925	0.1584
82	0.9903	0.1392	7.1154	1.0098	7.1853	0.1405
83	0.9925	0.1219	8.1443	1.0075	8.2055	0.1228
84	0.9945	0.1045	9.5144	1.0055	9.5668	0.1051
85	0.9962	0.0872	11.4301	1.0038	11.4740	0.0875
86	0.9976	0.0698	14.3007	1.0024	14.3360	0.0699
87	0.9986	0.0523	19.0811	1.0014	19.1070	0.0524
88	0.9994	0.0349	28.6363	1.0006	28.6540	0.0349
89	0.9998	0.0175	57.2900	1.0002	57.2990	0.0175
90	1.0000	0.0000	undefined	1.0000	undefined	0.0000

THE LOGARITHMIC FUNCTION TO BASE 10

	0	1	2	3	4	5	6	7	8	9
1.0	0.0000	0.0043	0.0086	0.0128	0.0170	0.0212	0.0253	0.0294	0.0334	0.0374
1.1	0.0414	0.0453	0.0492	0.0531	0.0569	0.0607	0.0645	0.0682	0.0719	0.0755
1.2	0.0792	0.0828	0.0864	0.0899	0.0934	0.0969	0.1004	0.1038	0.1072	0.1106
1.3	0.1139	0.1173	0.1206	0.1239	0.1271	0.1303	0.1335	0.1367	0.1399	0.1430
1.4	0.1461	0.1492	0.1523	0.1553	0.1584	0.1614	0.1644	0.1673	0.1703	0.1732
1.5	0.1761	0.1790	0.1818	0.1847	0.1875	0.1903	0.1931	0.1959	0.1987	0.2014
1.6	0.2041	0.2068	0.2095	0.2122	0.2148	0.2175	0.2201	0.2227	0.2253	0.2279
1.7	0.2304	0.2330	0.2355	0.2380	0.2405	0.2430	0.2455	0.2480	0.2504	0.2529
1.8	0.2553	0.2577	0.2601	0.2625	0.2648	0.2672	0.2695	0.2718	0.2742	0.2765
1.9	0.2788	0.2810	0.2833	0.2856	0.2878	0.2900	0.2923	0.2945	0.2967	0.2989
2.0	0.3010	0.3032	0.3054	0.3075	0.3096	0.3118	0.3139	0.3160	0.3181	0.3201
2.1	0.3222	0.3243	0.3263	0.3284	0.3304	0.3324	0.3345	0.3365	0.3385	0.3404
2.2	0.3424	0.3444	0.3464	0.3483	0.3502	0.3522	0.3541	0.3560	0.3579	0.3598
2.3	0.3617	0.3636	0.3655	0.3674	0.3692	0.3711	0.3729	0.3747	0.3766	0.3784
2.4	0.3802	0.3820	0.3838	0.3856	0.3874	0.3892	0.3909	0.3927	0.3945	0.3962
2.5	0.3979	0.3997	0.4014	0.4031	0.4048	0.4065	0.4082	0.4099	0.4116	0.4133
2.6	0.4150	0.4166	0.4183	0.4200	0.4216	0.4232	0.4249	0.4265	0.4281	0.4298
2.7	0.4314	0.4330	0.4346	0.4362	0.4378	0.4393	0.4409	0.4425	0.4440	0.4456
2.8	0.4472	0.4487	0.4502	0.4518	0.4533	0.4548	0.4564	0.4579	0.4594	0.4609
2.9	0.4624	0.4639	0.4654	0.4669	0.4683	0.4698	0.4713	0.4728	0.4742	0.4757
3.0	0.4771	0.4786	0.4800	0.4814	0.4829	0.4843	0.4857	0.4871	0.4886	0.4900
3.1	0.4914	0.4928	0.4942	0.4955	0.4969	0.4983	0.4997	0.5011	0.5024	0.5038
3.2	0.5051	0.5065	0.5079	0.5092	0.5105	0.5119	0.5132	0.5145	0.5159	0.5172
3.3	0.5185	0.5198	0.5211	0.5224	0.5237	0.5250	0.5263	0.5276	0.5289	0.5302
3.4	0.5315	0.5328	0.5340	0.5353	0.5366	0.5378	0.5391	0.5403	0.5416	0.5428
3.5	0.5441	0.5453	0.5465	0.5478	0.5490	0.5502	0.5514	0.5527	0.5539	0.5551
3.6	0.5563	0.5575	0.5587	0.5599	0.5611	0.5623	0.5635	0.5647	0.5658	0.5670
3.7	0.5682	0.5694	0.5705	0.5717	0.5729	0.5740	0.5752	0.5763	0.5775	0.5786
3.8	0.5798	0.5809	0.5821	0.5832	0.5843	0.5855	0.5866	0.5877	0.5888	0.5899
3.9	0.5911	0.5922	0.5933	0.5944	0.5955	0.5966	0.5977	0.5988	0.5999	0.6010
4.0	0.6021	0.6031	0.6042	0.6053	0.6064	0.6075	0.6085	0.6096	0.6107	0.6117
4.1	0.6128	0.6138	0.6149	0.6160	0.6170	0.6180	0.6191	0.6201	0.6212	0.6222
4.2	0.6232	0.6243	0.6253	0.6263	0.6274	0.6284	0.6294	0.6304	0.6314	0.6325
4.3	0.6335	0.6345	0.6355	0.6365	0.6375	0.6385	0.6395	0.6405	0.6415	0.6425
4.4	0.6435	0.6444	0.6454	0.6464	0.6474	0.6484	0.6493	0.6503	0.6513	0.6522
4.5	0.6532	0.6542	0.6551	0.6561	0.6571	0.6580	0.6590	0.6599	0.6609	0.6618
4.6	0.6628	0.6637	0.6646	0.6656	0.6665	0.6675	0.6684	0.6693	0.6702	0.6712
4.7	0.6721	0.6730	0.6739	0.6749	0.6758	0.6767	0.6776	0.6785	0.6794	0.6803
4.8	0.6812	0.6821	0.6830	0.6839	0.6848	0.6857	0.6866	0.6875	0.6884	0.6893
4.9	0.6902	0.6911	0.6920	0.6928	0.6937	0.6946	0.6955	0.6964	0.6972	0.6981
5.0	0.6990	0.6998	0.7007	0.7016	0.7024	0.7033	0.7042	0.7050	0.7059	0.7067
5.1	0.7076	0.7084	0.7093	0.7101	0.7110	0.7118	0.7126	0.7135	0.7143	0.7152
5.2	0.7160	0.7168	0.7177	0.7185	0.7193	0.7202	0.7210	0.7218	0.7226	0.7235
5.3	0.7243	0.7251	0.7259	0.7267	0.7275	0.7284	0.7292	0.7300	0.7308	0.7316
5.4	0.7324	0.7332	0.7340	0.7348	0.7356	0.7364	0.7372	0.7380	0.7388	0.7396

THE LOGARITHMIC FUNCTION TO BASE 10

	0	1	2	3	4	5	6	7	8	9
5.5	0.7404	0.7412	0.7419	0.7427	0.7435	0.7443	0.7451	0.7459	0.7466	0.7474
5.6	0.7482	0.7490	0.7497	0.7505	0.7513	0.7520	0.7528	0.7536	0.7543	0.7551
5.7	0.7559	0.7566	0.7574	0.7582	0.7589	0.7597	0.7604	0.7612	0.7619	0.7627
5.8	0.7634	0.7642	0.7649	0.7657	0.7664	0.7672	0.7679	0.7686	0.7694	0.7701
5.9	0.7709	0.7716	0.7723	0.7731	0.7738	0.7745	0.7752	0.7760	0.7767	0.7774
6.0	0.7782	0.7789	0.7796	0.7803	0.7810	0.7818	0.7825	0.7832	0.7839	0.7846
6.1	0.7853	0.7860	0.7868	0.7875	0.7882	0.7889	0.7896	0.7903	0.7910	0.7917
6.2	0.7924	0.7931	0.7938	0.7945	0.7952	0.7959	0.7966	0.7973	0.7980	0.7987
6.3	0.7993	0.8000	0.8007	0.8014	0.8021	0.8028	0.8035	0.8041	0.8048	0.8055
6.4	0.8062	0.8069	0.8075	0.8082	0.8089	0.8096	0.8102	0.8109	0.8116	0.8122
6.5	0.8129	0.8136	0.8142	0.8149	0.8156	0.8162	0.8169	0.8176	0.8182	0.8189
6.6	0.8195	0.8202	0.8209	0.8215	0.8222	0.8228	0.8235	0.8241	0.8248	0.8254
6.7	0.8261	0.8267	0.8274	0.8280	0.8287	0.8293	0.8299	0.8306	0.8312	0.8319
6.8	0.8325	0.8331	0.8338	0.8344	0.8351	0.8357	0.8363	0.8370	0.8376	0.8382
6.9	0.8388	0.8395	0.8401	0.8407	0.8414	0.8420	0.8426	0.8432	0.8439	0.8445
7.0	0.8451	0.8457	0.8463	0.8470	0.8476	0.8482	0.8488	0.8494	0.8500	0.8506
7.1	0.8513	0.8519	0.8525	0.8531	0.8537	0.8543	0.8549	0.8555	0.8561	0.8567
7.2	0.8573	0.8579	0.8585	0.8591	0.8597	0.8603	0.8609	0.8615	0.8621	0.8627
7.3	0.8633	0.8639	0.8645	0.8651	0.8657	0.8663	0.8669	0.8675	0.8681	0.8686
7.4	0.8692	0.8698	0.8704	0.8710	0.8716	0.8722	0.8727	0.8733	0.8739	0.8745
7.5	0.8751	0.8756	0.8762	0.8768	0.8774	0.8779	0.8785	0.8791	0.8797	0.8802
7.6	0.8808	0.8814	0.8820	0.8825	0.8831	0.8837	0.8842	0.8848	0.8854	0.8859
7.7	0.8865	0.8871	0.8876	0.8882	0.8887	0.8893	0.8899	0.8904	0.8910	0.8915
7.8	0.8921	0.8927	0.8932	0.8938	0.8943	0.8949	0.8954	0.8960	0.8965	0.8971
7.9	0.8976	0.8982	0.8987	0.8993	0.8998	0.9004	0.9009	0.9015	0.9020	0.9025
8.0	0.9031	0.9036	0.9042	0.9047	0.9053	0.9058	0.9063	0.9069	0.9074	0.9079
8.1	0.9085	0.9090	0.9096	0.9101	0.9106	0.9112	0.9117	0.9122	0.9128	0.9133
8.2	0.9138	0.9143	0.9149	0.9154	0.9159	0.9165	0.9170	0.9175	0.9180	0.9186
8.3	0.9191	0.9196	0.9201	0.9206	0.9212	0.9217	0.9222	0.9227	0.9232	0.9238
8.4	0.9243	0.9248	0.9253	0.9258	0.9263	0.9269	0.9274	0.9279	0.9284	0.9289
8.5	0.9294	0.9299	0.9304	0.9309	0.9315	0.9320	0.9325	0.9330	0.9335	0.9340
8.6	0.9345	0.9350	0.9355	0.9360	0.9365	0.9370	0.9375	0.9380	0.9385	0.9390
8.7	0.9395	0.9400	0.9405	0.9410	0.9415	0.9420	0.9425	0.9430	0.9435	0.9440
8.8	0.9445	0.9450	0.9455	0.9460	0.9465	0.9469	0.9474	0.9479	0.9484	0.9489
8.9	0.9494	0.9499	0.9504	0.9509	0.9513	0.9518	0.9523	0.9528	0.9533	0.9538
9.0	0.9542	0.9547	0.9552	0.9557	0.9562	0.9566	0.9571	0.9576	0.9581	0.9586
9.1	0.9590	0.9595	0.9600	0.9605	0.9609	0.9614	0.9619	0.9624	0.9628	0.9633
9.2	0.9638	0.9643	0.9647	0.9652	0.9657	0.9661	0.9666	0.9671	0.9675	0.9680
9.3	0.9685	0.9689	0.9694	0.9699	0.9703	0.9708	0.9713	0.9717	0.9722	0.9727
9.4	0.9731	0.9736	0.9741	0.9745	0.9750	0.9754	0.9759	0.9763	0.9768	0.9773
9.5	0.9777	0.9782	0.9786	0.9791	0.9795	0.9800	0.9805	0.9809	0.9814	0.9818
9.6	0.9823	0.9827	0.9832	0.9836	0.9841	0.9845	0.9850	0.9854	0.9859	0.9863
9.7	0.9868	0.9872	0.9877	0.9881	0.9886	0.9890	0.9894	0.9899	0.9903	0.9908
9.8	0.9912	0.9917	0.9921	0.9926	0.9930	0.9934	0.9939	0.9943	0.9948	0.9952
9.9	0.9956	0.9961	0.9965	0.9969	0.9974	0.9978	0.9983	0.9987	0.9991	0.9996

PRESENT VALUE $P = \frac{A}{(1 + i)^n}$

Yrs.	½%	1%	1½%	2%	2½%	3%	3½%	Yrs.
1	0.99502	0.99010	0.98522	0.98039	0.97561	0.97087	0.96618	1
2	0.99007	0.98030	0.97066	0.96117	0.95181	0.94260	0.93351	2
3	0.98515	0.97059	0.95632	0.94232	0.92860	0.91514	0.90194	3
4	0.98025	0.96098	0.94218	0.92385	0.90595	0.88849	0.87144	4
5	0.97537	0.95147	0.92826	0.90573	0.88385	0.86261	0.84197	5
6	0.97052	0.94205	0.91454	0.88797	0.86230	0.83748	0.81350	6
7	0.96569	0.93272	0.90103	0.87056	0.84127	0.81309	0.78599	7
8	0.96089	0.92348	0.88771	0.85349	0.82075	0.78941	0.75941	8
9	0.95610	0.91434	0.87459	0.83676	0.80073	0.76642	0.73373	9
10	0.95135	0.90529	0.86167	0.82035	0.78120	0.74409	0.70892	10
11	0.94661	0.89632	0.84893	0.80426	0.76214	0.72242	0.68495	11
12	0.94191	0.88745	0.83639	0.78849	0.74356	0.70138	0.66178	12
13	0.93722	0.87866	0.82403	0.77303	0.72542	0.68095	0.63940	13
14	0.93256	0.86996	0.81185	0.75788	0.70773	0.66112	0.61778	14
15	0.92792	0.86135	0.79985	0.74301	0.69047	0.64186	0.59689	15
16	0.92330	0.85282	0.78803	0.72845	0.67362	0.62317	0.57671	16
17	0.91871	0.84438	0.77639	0.71416	0.65720	0.60502	0.55720	17
18	0.91414	0.83602	0.76491	0.70016	0.64117	0.58739	0.53836	18
19	0.90959	0.82774	0.75361	0.68643	0.62553	0.57029	0.52016	19
20	0.90506	0.81954	0.74247	0.67297	0.61027	0.55368	0.50257	20
21	0.90056	0.81143	0.73150	0.65978	0.59539	0.52755	0.48557	21
22	0.89608	0.80340	0.72069	0.64684	0.58086	0.52189	0.46915	22
23	0.89162	0.79544	0.71004	0.63416	0.56670	0.50669	0.45329	23
24	0.88719	0.78757	0.69954	0.62172	0.55288	0.49193	0.43796	24
25	0.88277	0.77977	0.68921	0.60953	0.53939	0.47761	0.42315	25
26	0.87838	0.77205	0.67902	0.59758	0.52623	0.46369	0.40884	26
27	0.87401	0.76440	0.66899	0.58586	0.41340	0.45019	0.39501	27
28	0.86966	0.75684	0.65910	0.57437	0.50088	0.43708	0.38165	28
29	0.86533	0.74934	0.64936	0.56311	0.48866	0.42435	0.36875	29
30	0.86103	0.74192	0.63976	0.55207	0.47674	0.41199	0.35628	30
31	0.85675	0.73458	0.63031	0.54125	0.46511	0.39999	0.34423	31
32	0.85248	0.72730	0.62099	0.53063	0.45377	0.38834	0.33259	32
33	0.84824	0.72010	0.61182	0.52023	0.44270	0.37703	0.32134	33
34	0.84402	0.71297	0.60277	0.51003	0.43191	0.36604	0.31048	34
35	0.83982	0.70591	0.59387	0.50003	0.42137	0.35538	0.29998	35
36	0.83564	0.69892	0.58509	0.49022	0.41109	0.34503	0.28983	36
37	0.83149	0.69200	0.57644	0.48061	0.40107	0.33498	0.28003	37
38	0.82735	0.68515	0.56792	0.47119	0.39128	0.32523	0.27056	38
39	0.82323	0.67837	0.55953	0.46195	0.38174	0.31575	0.26141	39
40	0.81914	0.67165	0.55126	0.45289	0.37243	0.30656	0.25257	40

PRESENT VALUE $P = \frac{A}{(1 + i)^n}$

Yrs.	4%	4½%	5%	5½%	6%	7%	8%	Yrs.
1	0.96154	0.95694	0.95238	0.94787	0.94340	0.93458	0.92593	1
2	0.92456	0.91573	0.90703	0.89845	0.89000	0.87344	0.85734	2
3	0.88900	0.87630	0.86384	0.85161	0.83962	0.81630	0.79383	3
4	0.85480	0.83856	0.82270	0.80722	0.79209	0.76290	0.73503	4
5	0.82193	0.80245	0.78353	0.76513	0.74726	0.71299	0.68058	5
6	0.79031	0.76790	0.74622	0.72525	0.70496	0.66634	0.63017	6
7	0.75992	0.73483	0.71068	0.68744	0.66506	0.62275	0.58349	7
8	0.73069	0.70319	0.67684	0.65160	0.62741	0.58201	0.54027	8
9	0.70259	0.67290	0.64461	0.61763	0.59190	0.54393	0.50025	9
10	0.67556	0.64393	0.61391	0.58543	0.55839	0.50835	0.46319	10
11	0.64958	0.61620	0.58468	0.55491	0.52679	0.47509	0.42888	11
12	0.62460	0.58966	0.55684	0.52598	0.49697	0.44401	0.39711	12
13	0.60057	0.56427	0.53032	0.49856	0.46884	0.41496	0.36770	13
14	0.57748	0.53997	0.50507	0.47257	0.44230	0.38782	0.34046	14
15	0.55526	0.51672	0.48102	0.44793	0.41727	0.36245	0.31524	15
16	0.53391	0.49447	0.45811	0.42458	0.39365	0.33873	0.29189	16
17	0.51337	0.47318	0.43630	0.40245	0.37136	0.31657	0.27027	17
18	0.49363	0.45280	0.41552	0.38147	0.35034	0.29586	0.25025	18
19	0.47464	0.43330	0.39573	0.36158	0.33051	0.27651	0.23171	19
20	0.45639	0.41464	0.37689	0.34273	0.31180	0.25842	0.21455	20
21	0.43883	0.39679	0.35894	0.32486	0.29416	0.24151	0.19866	21
22	0.42196	0.37970	0.34185	0.30793	0.27751	0.22571	0.18394	22
23	0.40573	0.36335	0.32557	0.29187	0.26180	0.21095	0.17032	23
24	0.39012	0.34770	0.31007	0.27666	0.24698	0.19715	0.15770	24
25	0.37512	0.33273	0.29530	0.26223	0.23300	0.18425	0.14602	25
26	0.36069	0.31840	0.28124	0.24856	0.21981	0.17220	0.13520	26
27	0.34682	0.30469	0.26785	0.23560	0.20737	0.16093	0.12519	27
28	0.33348	0.29157	0.25509	0.22332	0.19563	0.15040	0.11591	28
29	0.32065	0.27902	0.24295	0.21168	0.18456	0.14056	0.10733	29
30	0.30832	0.26700	0.23138	0.20064	0.17411	0.13137	0.09938	30
31	0.29646	0.25550	0.22036	0.19018	0.16425	0.12277	0.09202	31
32	0.28506	0.24450	0.20987	0.18027	0.15496	0.11474	0.08420	32
33	0.27409	0.23397	0.19987	0.17087	0.14619	0.10723	0.07889	33
34	0.26355	0.22390	0.19035	0.16196	0.13791	0.10022	0.07305	34
35	0.25342	0.21425	0.18129	0.15352	0.13011	0.09366	0.06763	35
36	0.24367	0.20503	0.17266	0.14552	0.12274	0.08754	0.06262	36
37	0.23430	0.19620	0.16444	0.13793	0.11579	0.08181	0.05799	37
38	0.22529	0.18775	0.15661	0.13074	0.10924	0.07646	0.05369	38
39	0.21662	0.17967	0.14915	0.12392	0.10306	0.07146	0.04971	39
40	0.20829	0.17193	0.14205	0.11746	0.09722	0.06678	0.04603	40

COMPOUND INTEREST $A = P(1 + i)^n$

Yrs.	½%	1%	1½%	2%	2½%	3%	3½%	Yrs.
1	1.00500	1.01000	1.01500	1.02000	1.02500	1.03000	1.03500	1
2	1.01003	1.02010	1.03023	1.04040	1.05063	1.06090	1.07123	2
3	1.01508	1.03030	1.04568	1.06121	1.07689	1.09273	1.10872	3
4	1.02015	1.04060	1.06136	1.08243	1.10381	1.12551	1.14752	4
5	1.02525	1.05101	1.07728	1.10408	1.13141	1.15927	1.18769	5
6	1.03038	1.06152	1.09344	1.12616	1.15969	1.19405	1.22926	6
7	1.03553	1.07214	1.10984	1.14869	1.18869	1.22987	1.27228	7
8	1.04071	1.08286	1.12649	1.17166	1.21840	1.26677	1.31681	8
9	1.04591	1.09369	1.14339	1.19509	1.24886	1.30477	1.36290	9
10	1.05114	1.10462	1.16054	1.21899	1.28008	1.34392	1.41060	10
11	1.05640	1.11567	1.17995	1.24337	1.31209	1.38423	1.45997	11
12	1.06168	1.12683	1.19562	1.26824	1.34489	1.42576	1.51107	12
13	1.06699	1.13809	1.21355	1.29361	1.37851	1.46835	1.56396	13
14	1.07232	1.14947	1.23176	1.31948	1.41297	1.51259	1.61869	14
15	1.07768	1.16097	1.25023	1.34587	1.44830	1.55797	1.67535	15
16	1.08307	1.17258	1.26899	1.37279	1.48451	1.60471	1.73399	16
17	1.08849	1.18430	1.28802	1.40024	1.52162	1.65285	1.79468	17
18	1.09393	1.19615	1.30734	1.42825	1.55966	1.70243	1.85749	18
19	1.09940	1.20811	1.32695	1.45681	1.59865	1.75351	1.92250	19
20	1.10490	1.22019	1.34686	1.48595	1.63862	1.80611	1.98979	20
21	1.11042	1.23239	1.36706	1.51567	1.67958	1.86029	2.05943	21
22	1.11597	1.24472	1.38756	1.54598	1.72157	1.91610	2.13151	22
23	1.12155	1.25716	1.40838	1.57690	1.76461	1.97359	2.20611	23
24	1.12716	1.26973	1.42950	1.60844	1.80873	2.03279	2.28333	24
25	1.13280	1.28243	1.45095	1.64061	1.85394	2.09378	2.36324	25
26	1.13846	1.29526	1.47271	1.67342	1.90029	2.15659	2.44596	26
27	1.14415	1.30821	1.49480	1.70689	1.94780	2.22129	2.53157	27
28	1.14987	1.32129	1.51722	1.74102	1.99750	2.28793	2.62017	28
29	1.15562	1.33450	1.53998	1.77584	2.04641	2.35657	2.71188	29
30	1.16140	1.34785	1.56308	1.81136	2.09757	2.42726	2.80679	30
31	1.16721	1.36133	1.58653	1.84759	2.15001	2.50008	2.90503	31
32	1.17304	1.37494	1.61032	1.88454	2.20376	2.57508	3.00671	32
33	1.17891	1.38869	1.63448	1.92223	2.25885	2.65234	3.11194	33
34	1.18480	1.40258	1.65900	1.90668	2.31532	2.73191	3.22086	34
35	1.19073	1.41660	1.68388	1.99989	2.37321	2.81386	3.33359	35
36	1.19668	1.43077	1.70914	2.03989	2.43254	2.89828	3.45027	36
37	1.20266	1.45508	1.73478	2.08069	2.49335	2.98523	3.57103	37
38	1.20868	1.45953	1.76080	2.12230	2.55568	3.07478	3.69601	38
39	1.21472	1.47412	1.78721	2.16474	2.61957	3.16703	3.82537	39
40	1.22079	1.48886	1.81402	2.20804	2.68506	3.26404	3.95926	40

COMPOUND INTEREST $A = P(1 + i)^n$

Yrs.	4%	4½%	5%	5½%	6%	7%	8%	Yrs.
1	1.04000	1.04500	1.05000	1.05500	1.06000	1.07000	1.08000	1
2	1.08160	1.09203	1.10250	1.11303	1.12360	1.14490	1.16640	2
3	1.12486	1.14117	1.15763	1.17424	1.19102	1.22504	1.25971	3
4	1.16986	1.19252	1.21551	1.23882	1.26248	1.31080	1.36049	4
5	1.21665	1.24618	1.27628	1.30696	1.33823	1.40255	1.46933	5
6	1.26532	1.30226	1.34010	1.37884	1.41852	1.50073	1.58687	6
7	1.31593	1.36086	1.40710	1.45468	1.50363	1.60578	1.71382	7
8	1.36857	1.42210	1.47746	1.53469	1.59385	1.71819	1.85093	8
9	1.42331	1.48610	1.55133	1.61909	1.68948	1.83846	1.99900	9
10	1.48024	1.55297	1.62889	1.70814	1.79085	1.96715	2.15893	10
11	1.53945	1.62285	1.71034	1.80209	1.89830	2.10485	2.33164	11
12	1.60103	1.69588	1.79586	1.90121	2.01220	2.25219	2.51817	12
13	1.66507	1.77220	1.88565	2.00577	2.13293	2.40985	2.71962	13
14	1.73168	1.85194	1.97993	2.11609	2.26090	2.57853	2.93719	14
15	1.80094	1.93528	2.07893	2.23248	2.39656	2.75903	3.17217	15
16	1.87298	2.02237	2.18287	2.35526	2.54035	2.95216	3.42594	16
17	1.94790	2.11338	2.29202	2.48480	2.69277	3.15881	3.70002	17
18	2.02582	2.20848	2.40662	2.62147	2.85434	3.37993	3.99602	18
19	2.10685	2.30786	2.52695	2.76565	3.02560	3.61653	4.31570	19
20	2.19112	2.41171	2.65330	2.91776	3.20714	3.86968	4.66096	20
21	2.27877	2.52024	2.78596	3.07823	3.29956	4.14056	5.03383	21
22	2.36992	2.63365	2.92526	3.24754	3.60354	4.43040	5.43654	22
23	2.46472	2.75217	3.07152	3.42615	3.81975	4.74053	5.87146	23
24	2.56330	2.87601	3.22510	3.61459	4.04893	5.07237	6.34118	24
25	2.66584	3.00543	3.38635	3.81339	4.29187	5.42743	6.84848	25
26	2.77247	3.14068	3.55567	4.02313	4.54938	5.80735	7.39635	26
27	2.88337	3.28201	3.73346	4.24440	4.82235	6.21387	7.98806	27
28	2.99870	3.42970	3.92013	4.47784	5.11169	6.64884	8.62711	28
29	3.11865	3.58404	4.11614	4.72412	5.41839	7.11426	9.31727	29
30	3.24340	3.74532	4.32194	4.98395	5.74349	7.61226	10.06266	30
31	3.37313	3.91386	4.53804	5.25807	6.08810	8.14511	10.86767	31
32	3.50806	4.08998	4.76494	5.54726	6.45339	8.71527	11.73708	32
33	3.64838	4.27403	5.00319	5.85236	6.84059	9.32534	12.67605	33
34	3.79432	4.44636	5.25335	6.17424	7.25103	9.97811	13.69013	34
35	3.94609	4.66735	5.51602	6.51383	7.68609	10.67658	14.78534	35
36	4.13093	4.87738	5.79182	6.87209	8.14725	11.42394	15.96817	36
37	4.26809	5.09686	6.08141	7.25005	8.63609	12.22362	17.24563	37
38	4.43881	5.32622	6.38548	7.64880	9.15425	13.07927	18.62528	38
39	4.61637	5.56590	6.70475	8.06949	9.70351	13.99482	20.11530	39
40	4.80102	5.81636	7.03999	8.51331	10.28572	14.97446	21.72452	40

N.L.C. - B.N.C.
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